1.   A data synchronization apparatus for synchronizing data retained in a plurality of heterogeneous databases comprising:

a data type conversion device in communication with a first database retention device to extract said data from a first database of said heterogeneous databases retained on said first database retention device, said extracted data being converted from a first format of said first database to format types of all remaining of the plurality of heterogeneous databases;

a data attachment device in communication with the data type conversion device to receive the data converted to the format types of the remaining plurality of databases and in communication with the plurality of heterogeneous databases to attach the data converted to the format types of the remaining plurality of databases; and

a release mechanism in communication with each of the remaining plurality of heterogeneous databases to receive a permission semaphore indicating that the data is synchronized among the plurality of databases and transfer the permission semaphore the first database to authorize usage of said database.

2.   The data synchronization apparatus of claim 1 wherein the data type conversion device creates an identification of the data that includes a data identifier and a serial number.

1   3.   The data synchronization apparatus of claim 1 wherein the release mechanism

2   transfers a status indication for the remaining plurality of heterogen ous

3   databases indicating the completion of the synchronization.

1   4.   The data synchronization apparatus of claim 1 wherein a database manager of

2   each of the remaining plurality of heterogeneous databases reviews the data

3   converted to the format types of each of the remaining plurality of databases and

4   generates one permission semaphore for each of the remaining plurality of

5   heterogeneous databases.

1   5.   The data synchronization apparatus of claim 1 wherein the first database is a

2   manufacturing information system specification database retaining equipment

3   environment and operational settings of equipment of a manufacturing facility.

1   6.   The data synchronization apparatus of claim 5 wherein the specification

2   database provides coding for controlling an operation of equipment of an

3   integrated circuit fabrication facility.

1   7.   The synchronization apparatus of claim 5 wherein the remaining plurality of

2   heterogeneous databases are included in a content management system

3   documenting the environment and the operational settings of the equipment of a

4   manufacturing facility.

1   8.   A manufacturing data synchronization apparatus for synchronizing manufacturing

2   data retained in an manufacturing specification database of a manufacturing

3   information system and a documentation database of a documentation

4   management system, said manufacturing data synchronization apparatus

5   comprising:

6   a data type conversion device in communication with a manufacturing

7   specification database retention device to extract said manufacturing

8   data from the manufacturing specification database, said extracted

9   data being converted from a first format type of said manufacturing

10   specification database to a second format of the documentation

11   database;

12   a data attachment device in communication with the data type conversion

13   device to receive the manufacturing data converted to the second

14   format type and in communication with the documentation database to

15   attach the manufacturing data converted to the second format type to

16   said documentation database; and

17   a release mechanism in communication with documentation database to

18   receive a permission semaphore indicating that the manufacturing data

19   is synchronized between the manufacturing specification database of

20   the manufacturing information system and the documentation

21   database of the documentation management system to authorize

22   usage of said manufacturing specification database.

1   9.   The data synchronization apparatus of claim 8 wherein the data type conversion

2   device creates an identification of the data that includes a data id ntifier and a

3   serial number.

1   10.   The data synchronization apparatus of claim 8 wherein the release mechanism

2   transfers a status indication of the documentation database indicating the

3   completion of the synchronization.

1   11.   The data synchronization apparatus of claim 8 wherein a database manager of

2   the documentation database reviews the manufacturing data converted to the

3   second format type and generates the permission semaphore.

1   12.   The data synchronization apparatus of claim 8 wherein the manufacturing

2   information system specification database retains equipment environment and

3   operational settings of equipment of a manufacturing facility.

1   13.   The data synchronization apparatus of claim 12 wherein the specification

2   database provides coding for controlling an operation of equipment of an

3   integrated circuit fabrication facility.

1   14.   The synchronization apparatus of claim 12 wherein the documentation database

2   documents the environment and the operational settings of the equipment of a

3   manufacturing facility.

1   15.   A method for synchronizing data retained in a plurality of heterogeneous

2   databas s comprising the steps of:

3   extracting said data from a first database of said heterogeneous

4   databases retained on said first database retention device;

5   converting said extracted data from a first format of said first database to

6   format types of all remaining of the plurality of heterogeneous

7   databases;

8   attaching the data converted to the format types of the remaining plurality

9   of databases;

10   receiving a permission semaphore indicating that the data is synchronized

11   among the plurality of databases; and

12   transferring the permission semaphore to the first database to authorize

13   usage of said first database.

1 16.   The method of claim 15 wherein converting said extracted data comprises the

2   step of creating an identification of the data that includes a data identifier and a

3   serial number.

1 17.   The method of claim 15 wherein receiving a permission semaphore comprises

2   the step of transferring a status indication for the remaining plurality of

3   heterogeneous databases indicating the completion of the synchronization.

1 18.   The method of claim 15 further comprising the steps of:

2   reviewing by a database manager the data converted to the format types

3   of the remaining plurality of databas s; and

4   generating one permission semaphore for each of the remaining plurality

5   of heterogeneous databases.

1   19.   The method of claim 15 wherein the first database is a manufacturing information

2   system specification database retaining equipment environment and operational

3   settings of equipment of a manufacturing facility.

1   20.   The method of claim 19 wherein the manufacturing information specification

2   database provides coding for controlling an operation of equipment of an

3   integrated circuit fabrication facility.

1   21.   The method of claim 19 wherein the remaining plurality of heterogeneous

2   databases is included in a content management system documenting the

3   environment and the operational settings of the equipment of a manufacturing

4   facility.

1   22.   An apparatus for synchronizing data retained in a plurality of heterogeneous

2   databases comprising:

3   means for extracting said data from a first database of said heterogeneous

4   databases retained on said first database retention device;

5   means for converting said extracted data from a first format of said first

6   database to format types of all remaining of the plurality of

7   heterogeneous databases;

8   means for attaching the data converted to the format types of the

9   remaining plurality of databases;

10   means for receiving a permission semaphore indicating that the data is

11   synchronized among the plurality of databases; and

12   means for transferring the permission semaphore to the first database to

13   authorize usage of said first database.

1   23.   The apparatus of claim 22 wherein said means for converting said extracted data

2   comprises means for creating an identification of the data that includes a data

3   identifier and a serial number.

1   24.   The apparatus of claim 22 wherein means for receiving a permission semaphore

2   comprises means for transferring a status indication for the remaining plurality of

3   heterogeneous databases indicating the completion of the synchronization.

1   25.   The apparatus of claim 22 further comprising:

2   means for reviewing by a database manager the data converted to the

3   format types of the remaining plurality of databases; and

4   means for generating one permission semaphore for each of the

5   remaining plurality of heterogeneous databases.

1 26.   The apparatus of claim 22 wherein the first database is a manufacturing

2   information system specification database retaining equipment environment and

3   operational settings of equipment of a manufacturing facility.

1 27.   The apparatus of claim 26 wherein the manufacturing information specification

2   database provides coding for controlling an operation of equipment of an

3   integrated circuit fabrication facility.

1 28.   The apparatus of claim 26 wherein the remaining plurality of heterogeneous

2   databases is included in a content management system documenting the

3   environment and the operational settings of the equipment of a manufacturing

4   facility.

1 29.   A method for synchronizing manufacturing data retained in a manufacturing

2   specification database retention device and a documentation management

3   system comprising the steps of:

4   extracting said manufacturing data from the manufacturing specification

5   database;

6   converting said extracted manufacturing data from a first format of said

7   manufacturing specification database to a second format type of the

8   documentation database;

9   attaching the manufacturing data converted to the second format type to

10   the documentation database;

11   receiving a permission semaphore indicating that the manufacturing data

12   is synchronized between the manufacturing specification database and

13   the documentation database; and

14   transferring the permission semaphore to the manufacturing specification

15   database to authorize usage of said manufacturing specification

16   database.

1   30.   The method of claim 29 wherein converting said extracted manufacturing data

2   comprises the step of creating an identification of the manufacturing data that

3   includes a manufacturing data identifier and a serial number.

1   31.   The method of claim 29 wherein receiving a permission semaphore comprises

2   the step of transferring a status indication of the documentation database

3   indicating the completion of the synchronization.

1   32.   The method of claim 29 further comprising the steps of:

2   reviewing by a database manager the manufacturing data converted to the

3   second format type of the documentation database; and

4   generating the permission semaphore for the documentation database.

1 33. The method of claim 29 wherein the manufacturing specification database

2   r tention device is included in a manufacturing information system for retaining

3   equipment environment and operational settings of equipment of a manufacturing

4   facility.

1 34. The method of claim 33 wherein the manufacturing information specification

2   database provides coding for controlling an operation of equipment of an

3   integrated circuit fabrication facility.

1 35. The method of claim 33 wherein the documentation database is included in a

2   content management system documenting the environment and the operational

3   settings of the equipment of a manufacturing facility.

1 36. An apparatus for synchronizing manufacturing data retained in a manufacturing

2   specification database retention device and a documentation management

3   system comprising the steps of:

4   means for extracting said manufacturing data from the manufacturing

5   specification database;

6   means for converting said extracted manufacturing data from a first format

7   of said manufacturing specification database to a second format type

8   of the documentation database;

9   means for attaching the manufacturing data converted to the second

10   format type to the documentation database;

11   means for receiving a permission semaphore indicating that the

12   manufacturing data is synchronized between the manufacturing

13   specification database and the documentation database; and

14   means for transferring the permission semaphore to the manufacturing

15   specification database to authorize usage of said manufacturing

16   specification database.

1   37.   The apparatus of claim 36 wherein means for converting said extracted

2   manufacturing data comprises means for creating an identification of the

3   manufacturing data that includes a manufacturing data identifier and a serial

4   number.

1   38.   The apparatus of claim 36 wherein receiving a permission semaphore comprises

2   the step of transferring a status indication of the documentation database

3   indicating the completion of the synchronization.

1   39.   The apparatus of claim 36 further comprising the steps of:

2   means for reviewing by a database manager the manufacturing data

3   converted to the second format type of the documentation database;

4   and

5   means for generating the permission semaphore for the documentation

6   database.

1 40. The apparatus of claim 36 wherein the manufacturing specification database

2 retention device is included in a manufacturing information system for retaining

3 equipment environment and operational settings of equipment of a manufacturing

4 facility.

1 41. The apparatus of claim 40 wherein the manufacturing information specification

2 database provides coding for controlling an operation of equipment of an

3 integrated circuit fabrication facility.

1 42. The apparatus of claim 40 wherein the documentation database is included in a

2 content management system documenting the environment and the operational

3 settings of the equipment of a manufacturing facility.

1 43. A computer system in communication with a plurality of heterogeneous

2 databases for synchronizing data retained in the plurality of heterogeneous

3 databases, said computer system executing a program process comprising the

4 steps of:

5 extracting said data from a first database of said heterogeneous

6 databases retained on said first database retention device;

7 converting said extracted data from a first format of said first database to

8 format types of all remaining of the plurality of heterogeneous

9 databases;

10   attaching the data converted to the format types of the remaining plurality

11   of databases;

12   receiving a permission semaphore indicating that the data is synchronized

13   among the plurality of databases; and

14   transferring the permission semaphore to the first database to authorize

15   usage of said first database.

1   44.   The computer system of claim 43 wherein converting said extracted data

2   comprises the step of creating an identification of the data that includes a data

3   identifier and a serial number.

1   45.   The computer system of claim 43 wherein receiving a permission semaphore

2   comprises the step of transferring a status indication for the remaining plurality of

3   heterogeneous databases indicating the completion of the synchronization.

1   46.   The computer system of claim 43 wherein the program process further comprises

2   the steps of:

3   reviewing by a database manager the data converted to the format types

4   of the remaining plurality of databases; and

5   generating one permission semaphore for each of the remaining plurality

6   of heterogeneous databases.

1   47.   The computer system of claim 43 wherein the first database is a manufacturing

2   information system specification database retaining quipment nvironment and

3   operational settings of equipment of a manufacturing facility.

1   48.   The computer system of claim 47 wherein the manufacturing information system

2   specification database provides coding for controlling an operation of equipment

3   of an integrated circuit fabrication facility.

1   49.   The computer system of claim 47 wherein the remaining plurality of

2   heterogeneous databases is included in a content management system

3   documenting the environment and the operational settings of the equipment of a

4   manufacturing facility.

1   50.   A data retention medium having program code executable on a computer system

2   in communication with a plurality of heterogeneous databases for synchronizing

3   data retained in the plurality of heterogeneous databases, said program code,

4   when executed by said program system, performs a program process comprising

5   the steps of:

6   extracting said data from a first database of said heterogeneous

7   databases retained on said first database retention device;

8   converting said extracted data from a first format of said first database to

9   format types of all remaining of the plurality of heterogeneous

10   databases;

11   attaching the data converted to the format types of the remaining plurality

12   of databases;

13   receiving a permission semaphore indicating that the data is synchronized

14   among the plurality of databases; and

15   . transferring the permission semaphore to the first database to authorize

16   usage of said first database.

17   51.   The data retention medium of claim 50 wherein converting said extracted data

18   comprises the step of creating an identification of the data that includes a data

19   identifier and a serial number.

1   52.   The data retention medium of claim 50 wherein receiving a permission

2   semaphore comprises the step of transfering a status indication for the remaining

3   plurality of heterogeneous databases indicating the completion of the

4   synchronization.

1   53.   The data retention medium of claim 50 wherein the program process further

2   comprises the steps of:

3   reviewing by a database manager the data converted to the format types

4   of the remaining plurality of databases; and

5   generating one permission semaphore for each of the remaining plurality

6   of heterogeneous databases.

54. The data retention medium of claim 50 wherein the first database is a manufacturing information system specification databas retaining equipment environment and operational settings of equipment of a manufacturing facility.

55. The data retention medium of claim 47 wherein the manufacturing information system specification database provides coding for controlling an operation of equipment of an integrated circuit fabrication facility.

56. The data retention medium of claim 47 wherein the remaining plurality of heterogeneous databases is included in a content management system documenting the environment and the operational settings of the equipment of a manufacturing facility.